

Title: Modified Barley α -Glucosidase
Inventor(s): Henson/Muslin/Clark
Application No.:
Docket Number: 960296.97486

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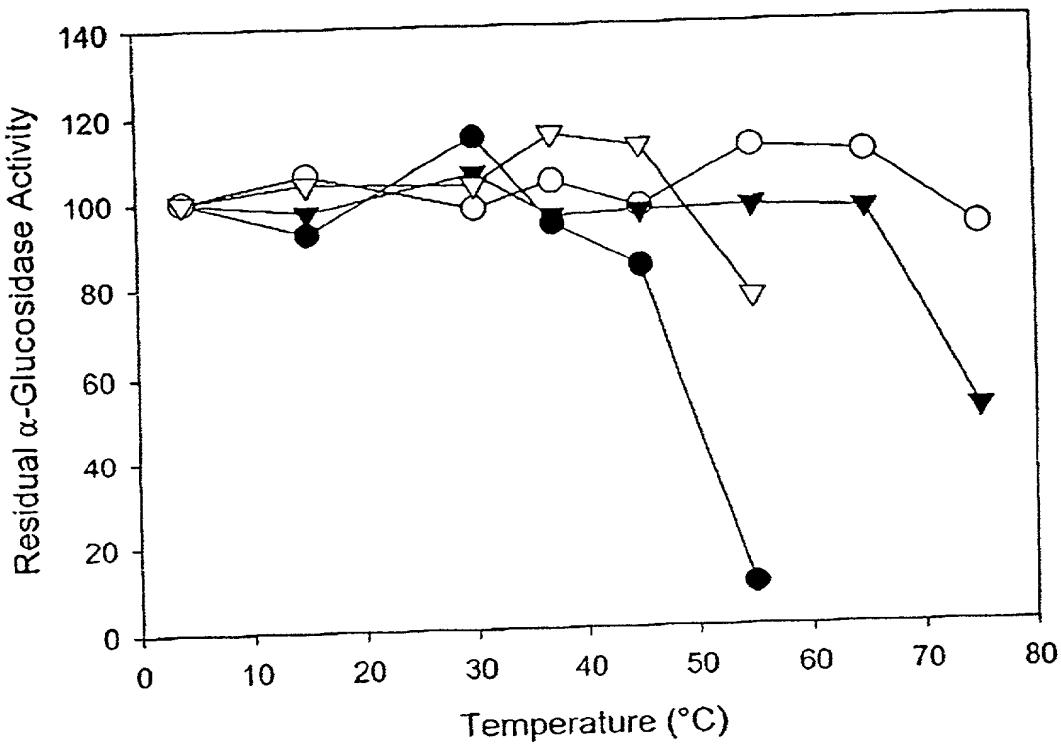


FIG 1

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BARLEY	MA-----TV/CV-----LILCCLCLFAPRLCSSKEEGPLAAR---	(32)
S.BEET	Me-----rskipryicptlavvLpLlvLCmvvegatrsKndr,ggeAigvg	(44)
SPINACH	MkkkipslalGi-----LLvFLlqyLvAgiscSendpegyvgy---	(39)
ARABID.	Ms-----slhwfphnif---ivvvvffeLrssqvveEEstvvgy---	(37)
BARLEY	-----TVLAVAVTMEG-----ALRAEAATGGRSTG-----DVCRLAVY	(66)
S.BEET	yqvknakvdnstgkal-----tallqlirnspvygp-----DihfLsft	(83)
SPINACH	-----gvkvkeVkvds-----grRsrs:alpqlvknssvypgDiQlLeit	(78)
ARABID.	-----gyvvvrevgvdsnrqvltakldlikpssvvyap-----DikeLnih	(76)
BARLEY	ASLETDSRLRVRITDAHDHPRWEVPQDIIIPRPAPGD-----VLDADAPPA	(109)
S.BEET	ASfEeDdtLRIrftTDAnnrRWE,FnenvIPRPPppspplss1gplpxPi	(133)
SPINACH	ASLEendRRLRVRITDAKIIrRWEIPdnllnRhqPpp-----ppphelss	(121)
ARABID.	vSLETsRLRIRITDssqcrRWEiPetvIPRaghns-----prfstee	(119)
BARLEY	S-----S-----APLOCRVLSPLAGSDLVLTV-H-ASPFRFTVSRRSTGDT	(147)
S.BEET	p-----q-----ngptttVLSphpSDLafslfH-ttPFgFTiyRkSThDv	(172)
SPINACH	lyrtllaspt-----tnrrkillLshpnSDLcfsl-intcPFgFTiSRkSThDv	(168)
ARABID.	d-----ggnsPennfladPssedlvftlh-n-ttFFgFsVSRRESeCDi	(159)
BARLEY	LFDTAPG-----L-----VFRDKYLEVTSALPAGRASLYGLGEHTK	(183)
S.BEET	LFDatPipenpttfl-----iykdqyLqLssSLPAqgAnLYGLGEHTK	(215)
SPINACH	LFDFtPdpfrntfl-----iFidgylhITTsLFGtRAhiLYGLGEHeK	(211)
ARABID.	LFDTsPd-----sadsntyfifkDqfLqLsSALPnRsnLYGIGEHTK	(202)
BARLEY	SSFRLRHNDSTLWNADIGASYYVDVNLYGSHPFYMDVRAP-----GTAH	(227)
S.BEET	ptFqLaENqj1tLWNADIAfnrD1NLYGSHPFYMDVRsspmv---GstH	(262)
SPINACH	ptFqLaENqjtTmrADIPsSnpDVNLYGSHPFYMDVRsspv---GstH	(258)
ARABID.	rsFRLipgetmTLWNAcGtGsepnDVNLYGSHPFYMDVRgskgneeaGTrH	(252)
BARLEY	GVLLLSSNGMDVLYGGSYVTVKVICGVLDFYFFAGPNPLAVVDDQYTQLIA	(277)
S.BEET	GVLLLnSNGMDVetrcrityKVICGiiD1Y1FAGstPemVidQYTKLIG	(312)
SPINACH	GVLLLnSNGMDVetrcrityKVICGiiD1Y1FFAGPsFgqVVeGfTrVig	(308)
ARABID.	GVLLLnSNGMDVkyCghriTyhVIGGViD1YvFAGPsPemVmnQYtelIG	(302)
BARLEY	RPAPMPYWSFGFHQCRCYGYLNVSDLERVVARYAKARIPLVMWTDIDYMD	(327)
S.BEET	RPAPMPYWaFGFHQCRCYGYdVyeLqcvVvAgYAKAKIPLVMWTDIDYMD	(362)
SPINACH	RPAPMPYWaFGFqQCRYGYhdVyeLqcvVvAgYAKAKIPLVMWTDIDYMD	(356)
ARABID.	RPAPMPYWSFGFHQCRCYGYkNVSDELYvvdoyAKA9:fLEVMWTDIDYMD	(352)
BARLEY	GFKDFTLDRVNFTAAFLRPFVDRLERNAQKYVLILDPGIRVDPIDAYGT	(377)
S.BEET	aFKDFTLdpVhFpldkmqqFvckLHRN9QryYvpILDPGI---ntrksYGT	(409)
SPINACH	ayKDFTLCpVNFpldkmkFvnnLHKNg9QKYvVILDPGI---stnktYcT	(405)
ARABID.	GyKDFTLDpVNfpdckmqeFVdtLHKNg9QKYVLILDPGI---gvDssYGT	(399)
BARLEY	FVRGMQODIFLKRNGTNFVGNVWPGDVYFPDFMHPAAEFWAREISLFR	(427)
S.BEET	FIRGMQsnf1FKRNGnpy1CsVWPgpVvYFDF1dPAAreFwvdEIkxFRd	(459)
SPINACH	yIRGM:hdFLKRNcpgylGeVWPgpVvFPDF1kPsaItFwtcElkrFln	(455)
ARABID.	ynRGMeadF1KRNGGepylGeVWFgkVYFPDF1nPAAAtFWsnEIkrmFqe	(449)
BARLEY	TIPFDGLWIDMNEISNFYN-----PEPMN-----ALDDDPYRINNDCTGRPINNKT	(473)
S.BEET	11P1DG1W1CMNEaSNFiteapPg5---tLDnPPYKINNsG9xvPINsKT	(507)
SPINACH	11P1DGLWIDMNEISNFN-----spPipgstLdnPPYKINNsGvmlPi:1NKT	(503)
ARABID.	11P1DGLWIDMNEISNFt-----sp1ssgeelDDPFYKINNsGGKRPINNKT	(497)
BARLEY	VRPLAVHVGVTETEYEEHNLFCGLLEARATGRGVLRDTGRRPFVLSRSTFVG	(523)
S.BEET	ipatAmHYGrvTEYnaHNLyGfLEsqqATreslvRpatrgpF1LSRSTFvG	(557)
SPINACH	ipFTAmHYGcipFyvnhLFCyLEARvTrealiklTeKrF2VLSRSTFvG	(553)
ARABID.	VpatsiH6GnisEYdaHNLyGLLEAKATHqaVvd1TGKRPF1LSRSTFvG	(547)
BARLEY	SCRYTAYWTGDNAAATWCDLRLYSINTMLSFGLFGMPMIGAD1ICGPNNTTE	(573)
S.BEET	SGKYTAhWTGDNAArWdDlqYs1pTMlnFGLFGMPMIGAD1ICGFaestTE	(607)
SPINACH	SGKYTAhWTGDNAArTwDlYyS1pSmlDfGLFGiPMvGAD1CGLGNTTE	(603)
ARABID.	SGKYTAhWTGDNAAkWeDlqYs1pS1p1lnFGLFGiPMvGAD1CGLGNTTE	(597)
BARLEY	ELCGRWIQ1GAFYPPFSRDSHSA1FTVRRRELYLWPSVAASGRKALGLRYcLL	(623)
S.BEET	ELCGRWIQ1GAFYPPFSRDSHSArdTchqELYLWeSVAASaRtvLGLRYcLL	(657)
SPINACH	ELCGRWIQ1GAFYPPFSRDSHSS1gTtyqELYrWeSVAASaRrv1GLRYcLL	(653)
ARABID.	ELCGRWIQ1GAFYPPFSRDSHSS1gTsrqELYLWdSVAAsaRkv1GLRv1LL	(647)

FIG 2

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BARLEY	PFYIYLMYEAHMTGAPIARPLFFSYPHDVAATYCVDRQFLLGRGVLVSPVL	(673)
S.BEET	PFYIYLMYdAnlrGspIARPLFtPDDVATYCissQFLiGRGimVSPVL	(707)
SPINACH	PFYIYLMYEAqInGpIARPLFFSfPdDikTYCiesQFLiGKGVmVSPVL	(703)
ARABID.	PhIYIYLMYEAHvsCnPIARPLFFSfEqDtkTveiDsgFLiGksimVSPal	(697)
BARLEY	EPGPTTVDAYFPAGRWYRLYDYSLAVATRTGKHVRLPAPADTVNVHLTGG	(723)
S.BEET	qPGesiVnAYsPrGnWvslenYteasVsveaGtyVsLsAfpDhiNVHiheG	(757)
SPINACH	kPGvvvsvtAYFPzGnWfdLfdYtrsVtaaTGrVtLsAfpDhiNVHiqeG	(753)
ARABID.	kqGavaVDAYFPAGnWfdLfnysfAVggdsGKHVRLccPADhVNVHvreG	(747)
BARLEY	TILPLOQSALTTSRARRTAFHLLVALAEDGTASGYLFLLDDGDSPEYGR-R	(772)
S.BEET	nIvamQgeAmTfqaARsTpFHLLVvmsdhvastGeLFLDnGiemdiGg-p	(806)
SPINACH	nILamQgkAmTTqzARKTpFHLLVvmsdcGaeGfGeLFLDDGvevtmcvnR	(803)
ARABID.	eiIvamQgeALTTrdARKTpyqLLVvaerleniSGeLFLDDGenlrmGa-g	(796)
BARLEY	S---D-WSMVRFNYKIPNNKGAIKVKEVVAHNSYAQSRTLVIISKVVLGMH	(816)
S.BEET	9---gkWt1VRFfsesgaN---nltisSEVnrgYamSgrwvmdKitilG1	(851)
SPINACH	g---k-Wt1Vkf---iaeaakgtciit3dVvegefAvsQkwVIdKvtilG1	(847)
ARABID.	9grxrD-Wt1Vkf---rcyvtgkevvrlsEVVnpeYAekmkweIgKVtfvGi	(843)
BARLEY	RSPAAAPKKLTvHVNSAEVEASSSAGTRYQNAGGLGGVAH-IGGLSLVVCE	(867)
S.BEET	krrvkikKeyTVqkdagaikvkgIgrrttshnqGffffVsv-IedLrqlvGq	(900)
SPINACH	RkgtkingyTVrtgavtrkgdkSkIkstpdrkGefivAe-IsGLnlllGr	(896)
ARABID.	envenkytveVrtserlrspriSlikctvsdnddpfrlsvevekL5L1VGk	(893)
BARLEY	EFELKV----AMSY	(877)
S.BEET	aFkLelefegAtrv	(914)
SPINACH	EFkL-----vih	(903)
ARABID.	kFEmrl----rlt-	(902)

FIG 2

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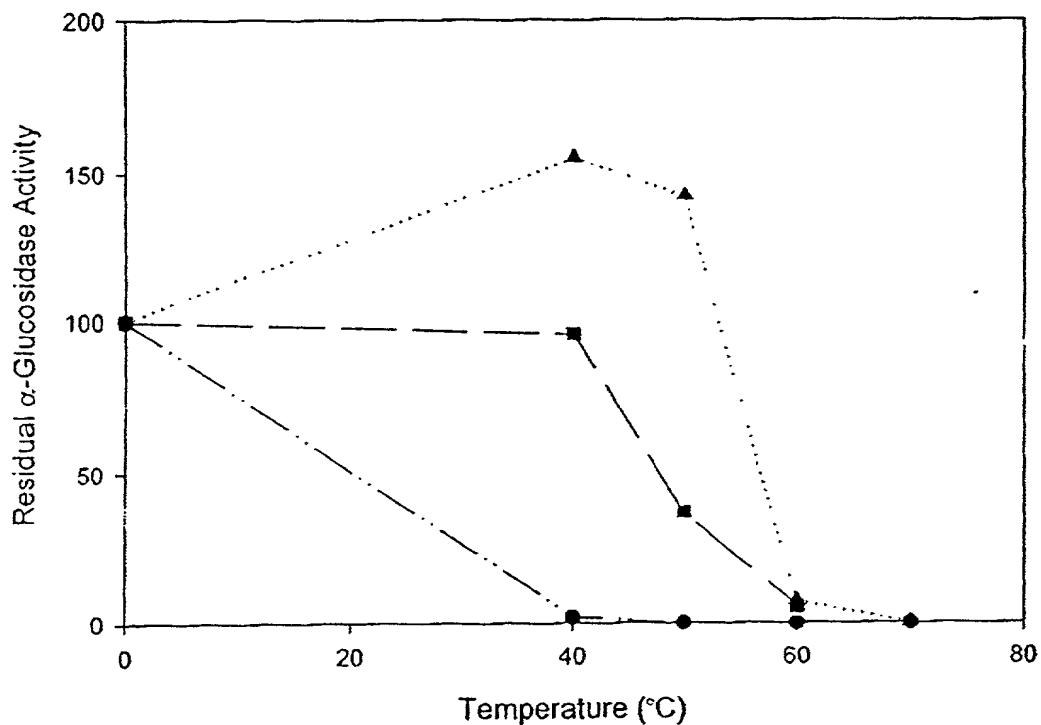


FIG 3

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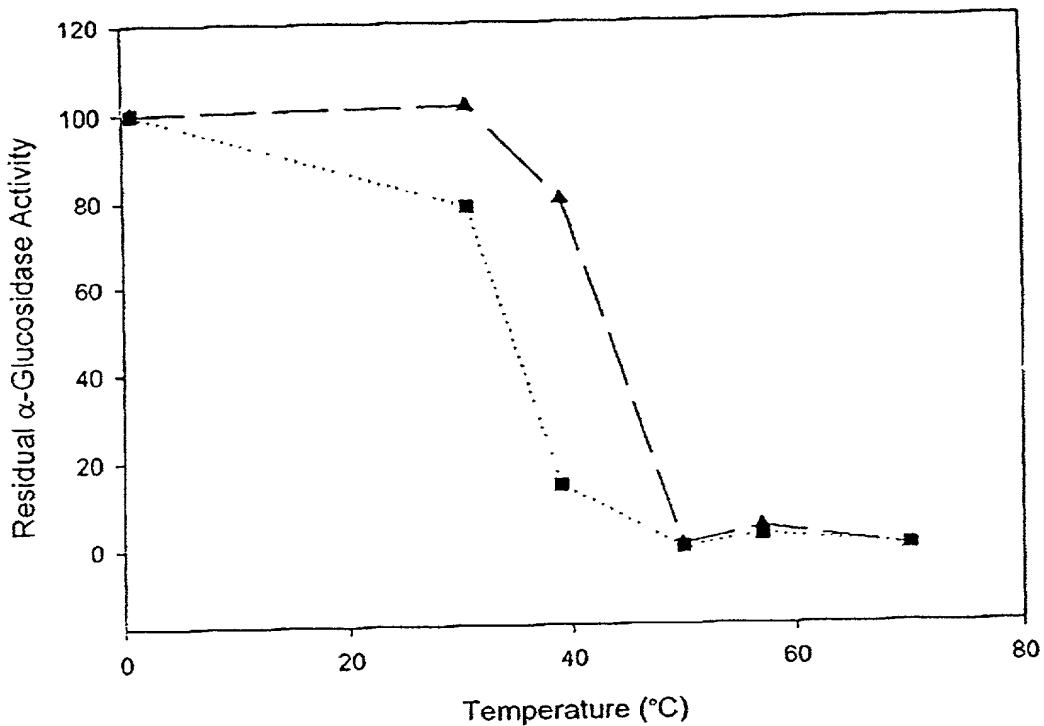


FIG 4

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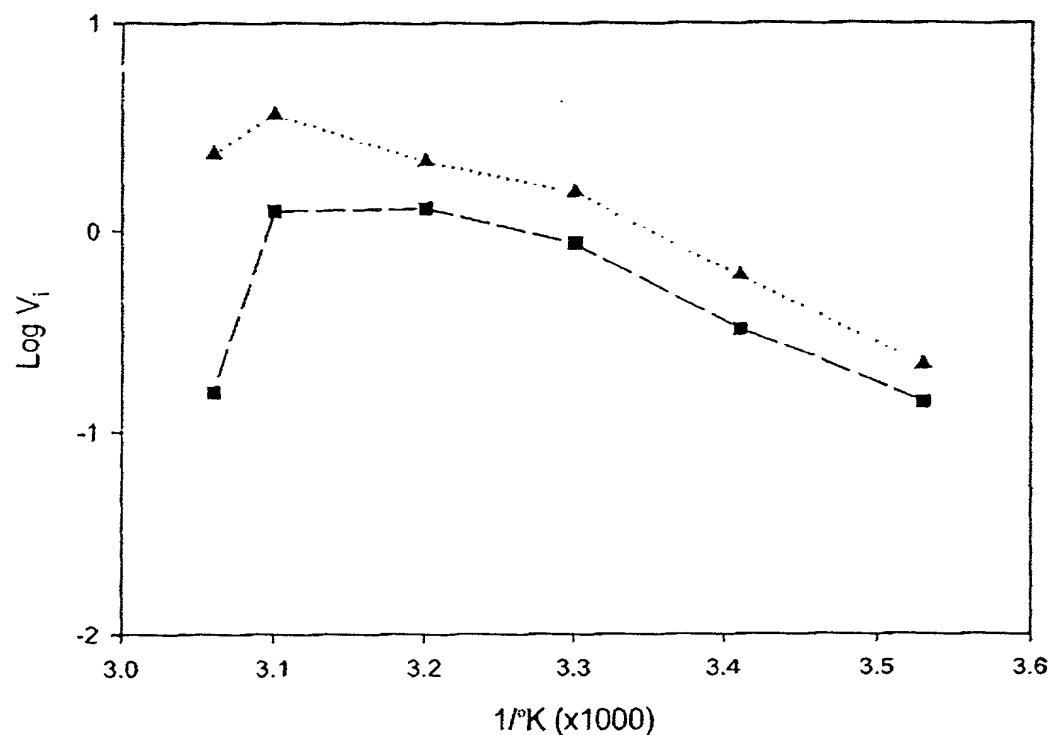


FIG 5